

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No. MO-0131342

Owner: Missouri Biosolids L.L.C.
Address: 2927 County Road 253, Columbia, MO 65202

Continuing Authority: Same as above
Address: Same as above

Facility Name: Missouri Biosolids L.L.C.
Address: 2927 County Road 253, Columbia, MO 65202

Legal Description: SE ¼, NE ¼, Sec. 7, T48N, R10W, Callaway County
Latitude/Longitude: +385723.2/-0920429.2

Receiving Stream: Unnamed Tributary to Manacle Creek (U)
First Classified Stream and ID: Manacle Creek (C)(0742)
USGS Basin & Sub-watershed No.: (10300102 - 190001)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Outfall #001 - Storage and land application facility - SIC #4952

No-discharge System

Single cell storage lagoon/biosolids are land applied.

This facility is authorized to receive biosolids, sludge, septage, and other domestic wastes.

This permit authorizes only biosolids discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

September 23, 2005

Effective Date

A handwritten signature in black ink, appearing to read "Doyle Childers".

Doyle Childers, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

September 22, 2010

Expiration Date
MO 780-0041 (10-93)

Edward Galbraith, Director of Staff, Clean Water Commission

FACILITY DESCRIPTION (continued)

Storage Basin:

Freeboard for basin:	1 foot
Storage volume (minimum to maximum water levels)	296,000 cubic feet

Days of Storage

Design for Dry weather Flows:	175 days
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Land Application:

Land application Volume/year: 664,000 cubic feet (including 1-in-10 year flows)

Land application areas: 810 acres

Field slopes: less than 3% percent

Equipment type: Umbilical hose or drag line

Vegetation: Row Crops

Application rate is based on: Plant Available Nitrogen

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 3 of 6	
					PERMIT NUMBER MO-0131342	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u> - Emergency discharge from lagoon (Note 1)						
Flow	MGD	*			once/day**	24 hr. estimate
Biochemical Oxygen Demand ₅ ***	mg/L		45	30	once/day**	grab
Total Suspended Solids***	mg/L		45	30	once/day**	grab
Ammonia Nitrogen as N	mg/L	*			once/day**	grab
Temperature	°F	*			once/day**	grab
pH – Units	SU	****		****	once/day**	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>January 28, 2006</u> .						
<u>Outfall #001</u> - Land Application Operational Monitoring (Notes 2 & 3)						
Lagoon Freeboard	feet	*			once/month	measured
Land application Period	hours	*			daily	total
Volume Irrigated	gallons	*			daily	total
Application Area	acres	*			daily	total
Application Rate	inches/acre	*			daily	total
Rainfall	inches	*			daily	total
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2006</u> .						
<u>Outfall #001</u> - Irrigated biosolids/biosolids (Note 4)						
Total Kjeldahl Nitrogen as N	mg/L	*			once/year	grab
Ammonia as N	mg/L	*			once/year	grab
Nitrate + Nitrite	mg/L	*			once/year	grab
Total Phosphours	mg/L	*			once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2006</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I & III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** Monitor once per day only when discharge occurs. Report as no-discharge when a discharge does not occur during the report period.
- *** This facility is required to meet a removal efficiency of 65% or more.
- **** pH is measured in pH units and is not to be averaged. The pH shall be maintained above 6.0 pH units.

Note 1 - No-discharge facility requirements. Biosolids shall be stored and land applied during suitable conditions so that there is no-discharge from the lagoon or land application site. An emergency discharge may occur when excess biosolids has accumulated above feasible land application rates due to precipitation exceeding the 1-in-10-year 365 day rainfall or the 25-year 24-hour storm event. **In the event of any discharge the department must be notified within 24 hours.** This notification must be made to the appropriate regional office or to the environmental emergency response line at (573) 634-2436

Note 2 - Records shall be maintained and summarized into an annual operating report, which shall be submitted by January 28th of each year for the previous calendar year period using report forms approved by the Department. The report shall include the following:

- a. Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
- b. The number of days the lagoon has discharged during the year, the discharge flow, the reasons discharge occurred and effluent analysis performed; and
- c. A summary of the land application operations including freeboard at the start and end of the land application season, the number of days of land application for each month, the total gallons irrigated, the total acres used, crops grown, crop yields per acre, the application rate in inches/acre per day and for the year, the monthly and annual precipitation received at the facility and summary of testing results.

Note 3 - Lagoon freeboard shall be reported as lagoon water level in feet below the overflow level. See Special Conditions for Biosolids Land application System requirements.

Note 4 - Biosolids that are irrigated shall be sampled at the land application pump or wet well.

C. SPECIAL CONDITIONS

- 1. A depth gauge shall be maintained in the storage basin so that the depth can be ascertained at all times. The gauge must be readable from a location on the berm and must indicate the height at which overflow will occur.
- 2. Water Quality Standards
 - (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
 - (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

C. SPECIAL CONDITIONS (continued)

3. Outfalls must be marked in field.
4. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

5. Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions and 40 CFR Part 503.
6. Lagoons and earthen basins shall have a liner or plastic or compacted clay that is designed, constructed and maintained. If operating records indicate excessive percolation, the department may require corrective action as necessary to eliminate excess leakage.
7. Biosolids Land application System.
 - (a) Discharge Reporting. Any unauthorized discharge from the lagoon or land application system shall be reported to the department as soon as possible but always within 24 hours. Discharge is allowed only as described in the Facility Description and Effluent Limitations sections of this permit.
 - (b) Lagoon Operating Levels - No-discharge Systems. The minimum and maximum operating water levels for the storage lagoon shall be clearly marked. Each lagoon shall be operated so that the maximum water elevation does not exceed one foot below the overflow point except due to exceedances of the 1-in-10 year or 25-year-24 hour storm events. Storage lagoon(s) shall be lowered to the minimum operating level prior to each winter by November 30.
 - (c) Emergency Spillway. Lagoons and earthen storage basins should have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm. The department may waive the requirement for overflow structures on small existing basins.
 - (d) General Land application Requirements. The biosolids land application system shall be operated so as to provide uniform distribution of biosolids over the entire land application site. A complete ground cover of vegetation shall be maintained on the land application site unless the system is in row crops. Land application shall occur only during daylight hours.
 - (e) Saturated/Frozen Conditions. There shall be no land application during frozen, snow covered, or saturated soil conditions.
 - (f) Buffer Zones. There shall be no irrigation within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply withdrawal; 100 feet of gaining streams or tributaries; 150 feet of dwelling or public use areas; or 50 feet of the property line.
 - (g) Public Access Restrictions. Public access shall not be allowed to the land application site(s).
 - (h) Operation and Maintenance Manual.

The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems. Copies of the O&M Manual and subsequent revisions shall be submitted to Regional Office for review and approval. The O&M Manual shall be reviewed and updated at least every five years.

C. SPECIAL CONDITIONS (continued)

7. Biosolids Land application System (continued)

(i) Nitrogen Loading Rates.

Land application rates shall be based on Plant Available Nitrogen (PAN). No more nitrogen shall be applied than is required by crops. PAN shall be calculated based on published references and documented in the O&M manual. Nitrogen application rates shall be based upon reasonable harvest expectations for a given crop.

The annual report required in Table A shall include testing results for biosolids, soils and crop yields and calculations for nitrogen applied and crop removal of nitrogen. Required nitrogen shall be determined each year through soil tests and projected needs.

(j) Equipment Checks during Land application. The land application system and application site shall be visually inspected at least once/day during biosolids land application to check for equipment malfunctions and runoff from the land application site.

8. Records of biosolids, septage and other wastes received shall be maintained for five years and made available to the department upon request. The record must include the generator, date and volume of waste received.